

REMARKS

Reconsideration of the instant application is respectfully requested. The present amendment is responsive to the Office Action of June 3, 2005, in which claims 1-15 are presently pending. Following the Applicants' amendment filed February 28, 2005, claims 1-14 are rejected under 35 U.S.C. §102(c) as being anticipated by the previously cited U.S. Patent Publication 20020098676 of Ning, et al. (Ning '676). Claims 5 and 15 have also been rejected under 35 U.S.C. §103(a) as being unpatentable over Ning '676. For the following reasons, however, it is respectfully submitted that the application is now in condition for allowance.

In the first Office Action of December 14, 2004, the Examiner took the position that Ning '676 defines "a conductive hardmask (240) ...over said magnetic stack layer..., wherein said hardmask forms a self aligning contact (defined by opening portion 250) between said magnetic stack layer and an upper metallization level (252)...". In response, the Applicants pointed out that the portions of the hardmask 240 over the MTJ stacks in Ning are actually removed during the formation of the upper level trenches (vias 250), and that therefore the hardmask 240 could not constitute a self-aligning contact between the magnetic stack layer and an upper metallization level as is presently claimed.

However, in the present action, the Examiner has now based the present rejections on the position that Ning also teaches a conductive hardmask (244) that is defined over the magnetic stack layer, wherein remaining portions of the hardmask (244) form a self-aligning contact between the magnetic stack layer and an upper metallization level. The Applicants respectfully submit that the hardmask layer 244 performs none of the claimed elements of the present invention.

Paragraph [0012] of the specification is amended as set forth above to more specifically point out that the self-aligned hardmask layer 124 with respect to the

magnetic stack layer 122 is not only a part of the MTJ stacks 126, but also serves as an electrical contact between the magnetic stack layer 122 and the upper metallization layer M3. In a telephone interview between the Examiner and the undersigned on August 15, 2005, it was pointed out that as is shown in Figures 3-5 of Ning, the hardmask layer 244 does not contact the magnetic stack layer 218. Therefore, the hardmask layer 244 cannot serve as a self-aligning contact between the magnetic stack layer 218 and the upper metallization layer 252.

However, in order to avoid any unintentional broadening of the term "self-aligning" as it recited in the claims, it was suggested by the Examiner the specification be amended to more particularly point out that the hardmask, in forming a self aligning contact between the magnetic stack layer and the upper metallization level, serves as an electrical contact between the magnetic stack layer and the upper metallization level.

Further, it was discussed that the hardmask layer 244 is completely removed in Figure 6 (where the upper metallization layer 252 is first shown). Therefore, for this additional reason, the hardmask layer 244 does not serve as a self-aligning contact between the magnetic stack layer 218 and the upper metallization level 252 as is presently claimed.

In view of this, as well as the above amendment to the specification, the Applicants respectfully traverse each of the outstanding §102 and §103 rejections based on the art of record. None of the cited references (either alone or in combination) teach or suggest a *hardmask layer that forms a self aligning contact between a magnetic stack layer and an upper metallization level formed above MTJ stacks*, as is provided for in each of the pending claims.

For the above stated reasons, it is respectfully submitted that the present application is now in condition for allowance. No new matter has been entered and no additional fees are believed to be required. However, if any fees are due with respect to

this Amendment, please charge them to Deposit Account No. 09-0458 maintained by Applicant's attorneys.

Respectfully submitted,
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